

IN THE CLAIMS

Please amend the claims as follows:

Claim 1. (Original) A semiconductor device comprising an insulation film consisting of a fluoridation carbon film that has been subjected to thermal history of 420 °C or lower, wherein

an amount of hydrogen atoms included in the fluoridation carbon film is 3 atomic % or less before the fluoridation carbon film is subjected to the thermal history.

Claim 2. (Original) A semiconductor device according to claim 1, wherein the insulation film is an interlayer insulation film.

Claim 3. (Original) A manufacturing method of a semiconductor device comprising the steps of:

generating a plasma of a source gas consisting of a chemical compound of carbon and fluorine and including hydrogen atoms of 1×10^{-3} atomic % or less, and

forming an insulating film consisting of a fluoridation carbon film that includes hydrogen atoms of 3 atomic % or less, on a substrate, by using the plasma of the source gas.

Claim 4. (Original) A manufacturing method of a semiconductor device according to claim 3, further comprising:

heating the substrate at a temperature of 420 °C or lower, after the step of forming the insulating film.

Claim 5. (Original) A manufacturing method of a semiconductor device according to claim 3 or 4, wherein

the chemical compound of carbon and fluorine is C_5F_8 .

Claim 6. (Original) A gas for a plasma CVD process, comprising an unsaturated carbon fluoride compound and a chemical compound including a hydrogen atom, the amount of the chemical compound including a hydrogen atom being 90 weight ppm or less.

Claim 7. (Original) The gas for the plasma CVD process according to claim 6, wherein the amount of the chemical compound including a hydrogen atom is 10 weight ppm or less.

Claim 8. (Original) The gas for the plasma CVD process according to claim 6, further comprising water in the amount of 3 weight ppm or less.

Claim 9. (Original) The gas for the plasma CVD process according to any of claims 6 to 8, wherein the unsaturated carbon fluoride compound is octafluorocyclopentene, hexafluoro-2-pentyne, or hexafluoro-1,3-butadiene.

Claim 10. (Currently Amended) A manufacturing method of the gas for the plasma CVD process according to any of claims 6 to 9 8, comprising the step of bringing a composition of an unsaturated carbon fluoride compound and a chemical compound including a hydrogen atom in contact with burned adsorbent.

Claim 11. (Currently Amended) A forming method of an insulation film comprising the step of: conducting a plasma CVD process by using the gas for the plasma CVD process according to any of claims 6 to 9 8.

Claim 12. (Original) A gas for a plasma CVD process, comprising an unsaturated carbon fluoride compound, and hydrogen atoms in the amount of 1×10^{-3} atomic % or lower.

Claim 13. (Original) A gas for a plasma CVD process, comprising an unsaturated carbon fluoride compound, and water in the amount of 0.5 weight ppm or less.

Claim 14. (Original) The gas for the plasma CVD process according to claim 13, wherein

the amount of water is 0.1 weight ppm or less.